RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10 815 320Source: 1FWODate Processed by STIC: 10 815 320

ENTERED



IFWO

DATE: 11/04/2005 RAW SEQUENCE LISTING PATENT APPLICATION: US/10/815,320 TIME: 13:27:14

Input Set : N:\Crf3\RULE60\10815320.raw Output Set: N:\CRF4\11042005\J815320.raw

SEQUENCE LISTING

```
3 (1) GENERAL INFORMATION:
             (i) APPLICANT: Binz, Hans
      6
                             Baussant, Thierry
      7
                             Haeuw, Jean-Francois
      8
                             Nguyen Ngoc, Thien
            (ii) TITLE OF INVENTION: Carrier Protein Having an Adjuvant
     10
     11
                                      Effect, Immunogenic Complex Containing It, Process for
     12
                                      Their Preparation, Nucleotide Sequence and Vaccines
     14
           (iii) NUMBER OF SEQUENCES: 8
     16
            (iv) CORRESPONDENCE ADDRESS:
     17
                   (A) ADDRESSEE: Rockey, Milnamow & Katz, Ltd.
     18
                   (B) STREET: 180 N. Stetson, 2 Prudential Plaza, Suite
     19
                               4700
     20
                   (C) CITY: Chicago
     21
                   (D) STATE: Illinois
     22
                   (E) COUNTRY: U.S.A.
     23
                   (F) ZIP: 60601
     25
             (v) COMPUTER READABLE FORM:
     26
                   (A) MEDIUM TYPE: Floppy disk
     27
                   (B) COMPUTER: IBM PC compatible
     28
                   (C) OPERATING SYSTEM: PC-DOS/MS-DOS
     29
                   (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
     31
            (vi) CURRENT APPLICATION DATA:
C--> 32
                   (A) APPLICATION NUMBER: US/10/815,320
C--> 33
                   (B) FILING DATE: 01-Apr-2004
W - - > 39
                   (C) CLASSIFICATION: 424
     36
           (vii) PRIOR APPLICATION DATA:
     37
                   (A) APPLICATION NUMBER: US/08/836,500
     38
                   (B) FILING DATE: 11-Aug-1997
     41
          (viii) ATTORNEY/AGENT INFORMATION:
     42
                   (A) NAME: Katz, Martin L.
     43
                   (B) REGISTRATION NUMBER: 25,011
     44
                   (C) REFERENCE/DOCKET NUMBER: PIE1514P0180US
     46
            (ix) TELECOMMUNICATION INFORMATION:
     47
                  (A) TELEPHONE: 312-616-5400
                  (B) TELEFAX: 312-616-5460
     48
        (2) INFORMATION FOR SEQ ID NO: 1:
     51
     53
             (i) SEQUENCE CHARACTERISTICS:
     54
                  (A) LENGTH: 1007 base pairs
     55
                  (B) TYPE: nucleic acid
     56
                  (C) STRANDEDNESS: single
                  (D) TOPOLOGY: linear
     57
```

RAW SEQUENCE LISTING DATE: 11/04/2005 PATENT APPLICATION: US/10/815,320 TIME: 13:27:14

59 (ii) MOLECULE TYPE: cDNA																	
62 63																	
64								007									
	64 (B) LOCATION: 11007 67 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:																
	CCT		AAA										CTC	ССТ	TCC	TCC	48
																	40
71	1	PIO	Lys	Asp	5	TIII	пр	ıyı	AIA	10	GIY	гур	Leu	GIY	11 p	Ser	
		тат	CAC	GNC		сст	ጥጥር	ጥ አ ር	CCT	_	ССТ	ጥጥር	CAC	አአሮ		N N C	96
			His														96
75	Gill	T Y L	111.5	20	1111	Gry	riie	1 Y L	25	Poli	Gry	FIIC	GIII	30	VOII	ASII	
	сст	CCG	ACC		ΔΔC	ርልጥ	CAG	СПП		ССТ	сст	CCC	ጥጥር		ርርጥ	ጥልሮ	144
			Thr														144
79	017		35	•••	11011	1101	0111	40	Cly	niu	O-y	niu	45	O-y	Ory	- y -	
	CAG	GTT	AAC	CCG	TAC	СТС	GGT		GAA	ATG	GGT	тат		TGG	СТС	GGC	192
			Asn														
83		50			-1-		55		0_0		0 -1	60					
	CGT		GCA	ТАТ	AAA	GGC		GTT	GAC	AAC	GGT		TTC	AAA	GCT	CAG	240
			Ala														
87	65			-2-	-1-	70					75			-1-		80	
		GTT	CAG	CTG	ACC		AAA	CTG	GGT	TAC		ATC	ACT	GAC	GAT		288
			Gln														
91	•				85		•		•	90			•	•	95		
93	GAC	ATC	TAC	ACC	CGT	CTG	GGC	GGC	ATG	GTT	TGG	CGC	GCT	GAC		AAA	336
			Tyr														
95	-		•	100	_		•	•	105		-			110		•	
97	GGC	AAC	TAC	GCT	TCT	ACC	GGC	GTT	TCC	CGT	AGC	GAA	CAC	GAC	ACT	GGC	384
98	Gly	Asn	Tyr	Ala	Ser	Thr	Gly	Val	Ser	Arg	Ser	Glu	His	Asp	Thr	Gly	
99			115					120					125				
101	L GTI	TC	CCA	GTA	TTT	GCI	GGC	GGC	GTA	GAG	TGG	GC]	GT	r Aci	CGI	GAC	432
102	2 Val	. Sei	r Pro	Val	Phe	Ala	Gly	gly,	v Val	. Glu	Tr	Ala	\Val	l Thr	Arg	Asp	
103	3	130)				135	;				140)				
																GCG	. 480
			a Thr	Arg	Leu		_	Glr	Trp	val	Asr	ı Asr	ı Ile	e Gly	Asp	Ala	
	7 145					150					155					160	
																GTT	528
	_	Thi	. Val	Gly		_	Pro) Asp) Asr	ı Gly	Met	Lei	ı Sei	Leu	ıGly	v Val	
111					165					170					175		
																GCT	576
		. Tyı	Arg		_	Gln	Glu	Asp			Pro	Val	. Val			Ala	
115				180		~	~	. ~~-	185					190			
																TCT	624
) Ala			Pro	GIU	vaı			Lys	His	Pne			гг	Ser	
119		. ama	195					200					205		000		680
																CAG	672
				r rue	ASD	. rne		_	ATS	ınr	тег	_) GIU	ı GIŞ	Gln	
123		210				Omo	215			ı ama		220		, (12.5			500
																AAA	720
126	GIT.	AT &	. ьеи	Asp	GIN	ьeu	туг	ınr	GIT	теп	ser	ASI	ı met	. Asp	Pro	Lys	

RAW SEQUENCE LISTING DATE: 11/04/2005 PATENT APPLICATION: US/10/815,320 TIME: 13:27:14

	225					230					235					240	
					GTT												768
130	Asp	Gly	Ser	Ala	Val	Val	Leu	Gly	Tyr	Thr	Asp	Arg	Ile	Gly	Ser	Glu	
131					245					250					255		
133	GCT	TAC	AAC	CAG	CAG	CTG	TCT	GAG	AAA	CGT	GCT	CAG	TCC	GTT	GTT	GAC	816
134	Ala	Tyr	Asn	Gln	Gln	Leu	Ser	Glu	Lys	Arg	Ala	Gln	Ser	Val	Val	Asp	
135				260					265					270			
137	TAC	CTG	GTT	GCT	AAA	GGC	ATC	CCG	GCT	GGC	AAA	ATC	TCC	GCT	CGC	GGC	864
138	Tyr	Leu	Val	Ala	Lys	Gly	Ile	Pro	Ala	Gly	Lys	Ile	Ser	Ala	Arg	Gly	
139			275					280					285				
141	ATG	GGT	GAA	TCC	AAC	CCG	GTT	ACT	GGC	AAC	ACC	TGT	GAC	AAC	GTG	AAA	912
142	Met	Gly	Glu	Ser	Asn	Pro	Val	Thr	Gly	Asn	Thr	Cys	Asp	Asn	Val	Lys	
143		290					295					300					
145	GCT	CGC	GCT	GCC	CTG	ATC	GAT	TGC	CTG	GCT	CCG	GAT	CGT	CGT	GTA	GAG	960
146	Ala	Arg	Ala	Ala	Leu	Ile	Asp	Cys	Leu	Ala	Pro	Asp	Arg	Arg	Val	Glu	
147	305					310					315					320	
149	ATC	GAA	GTT	AAA	GGC	TAC	AAA	GAA	GTT	GTA	ACT	CAG	CCG	GCG	GGT	TA	1007
150	Ile	Glu	Val	Lys	Gly	Tyr	Lys	Glu	Val	Val	Thr	Gln	Pro	Ala	Gly		
151					325					330					335		
154	4 (2) INFORMATION FOR SEQ ID NO: 2:																
156																	
157																	
158																	
159	• • • • • • • • • • • • • • • • • • • •																
161																	
163																	
165	Ala	Pro	Lys	Asp	Asn	Thr	Trp	Tyr	Ala	Gly	Gly	Lys	Leu	Gly	Trp	Ser	
166	1				5					10					15		
168	Gln	\mathtt{Tyr}	His	Asp	Thr	Gly	Phe	\mathtt{Tyr}	Gly	Asn	Gly	Phe	Gln	Asn	Asn	Asn	
169				20					25					30			
	Gly	Pro		Arg	Asn	Asp	Gln	Leu	Gly	Ala	Gly	Ala	Phe	Gly	Gly	Tyr	
172			35					40					45				
	Gln		Asn	Pro	Tyr	Leu	Gly	Phe	Glu	Met	Gly	\mathtt{Tyr}	Asp	\mathtt{Trp}	Leu	Gly	
175		50	_				55					60					
		Met	Ala	Tyr	Lys	Gly	Ser	Val	Asp	Asn	Gly	Ala	Phe	Lys	Ala	Gln	
178	65					70					75					80	
	Gly	Val	Gln	Leu	Thr	Ala	Lys	Leu	Gly	Tyr	Pro	Ile	Thr	Asp	Asp	Leu	
181		_			85					90					95		
	Asp	Ile	Tyr		Arg	Leu	Gly	Gly		Val	Trp	Arg	Ala	Asp	Ser	Lys	•
184				100					105					110			
	Gly	Asn		Ala	Ser	Thr	Gly		Ser	Arg	Ser	Glu	His	Asp	Thr	${ t Gly}$	
187			115			_	_	120					125				
	Val		Pro	Val	Phe	Ala		Gly	Val	Glu	Trp		Val	Thr	Arg	Asp	
190		130		_	_		135					140	_			_	•
		Ala	Thr	Arg	Leu		Tyr	Gln	Trp	Val		Asn	Ile	Gly	Asp	Ala	
193						150				_	155					160	
	Gly	Thr	Val	Gly	Thr	Arg	Pro	Asp	Asn	_	Met	Leu	Ser	Leu	_	Val	
196		_	_		165				_	170					175		
198	Ser	Tyr	Arg	Phe	Gly	Gln	Glu	Asp	Ala	Ala	Pro	Val	Val	Ala	Pro	Ala	•

RAW SEQUENCE LISTING DATE: 11/04/2005
PATENT APPLICATION: US/10/815,320 TIME: 13:27:14

199				180					185					190			
201	Pro	Ala	Pro	Ala	Pro	Glu	Val	Ala	Thr	Lys	His	Phe	Thr	Leu	Lys	Ser	
202		•	195					200		_			205		•		
204	Asp	Val	Leu	Phe	Asn	Phe	Asn	Lys	Ala	Thr	Leu	Lys	Pro	Glu	Gly	Gln	
205	_	210					215	-				220			-		
207	Gln	Ala	Leu	Asp	Gln	Leu	Tyr	Thr	Gln	Leu	Ser	Asn	Met	Asp	Pro	Lvs	
	225			•		230	4				235					240	
		Glv	Ser	Ala	Val		Leu	Glv	Tvr	Thr		Ara	Ile	Glv	Ser		
211	-	- 4			245			2	-2-	250		5		1	255		
	Ala	Tvr	Asn	Gln		Leu	Ser	Glu	Lvs		Ala	Gln	Ser	Val		Asp	•
214		-1-		260	0111			014	265	5		01	001	270	• • • •	1155	
	Tvr	Len	Val	-	Lvs	Glv	Ile	Pro		Glv	Taye	Tle	Ser		Δra	Glv	
217	-1-	пси	275	niu	Lys	OLY	110	280	Aru	Ory	шуы	110	285	AIG	Arg	Gry	
	Mot	Gl v		Sor	λen	Dro	Val		G1 v	Aen	Thr	Cvc		λan	1721	Larc	
220	Mec	290	GIU	DET	VOII	FIO	295	1111	Gry	Poll	1111		vsh	POII	vai	пуs	
	71-		ת דת	71-	T 011	Tla		C	T 011	- דת	Dwo	300	7 ~~~	7 ~~	17a]	~1	
	305	Arg	Ата	AIA	пец		Asp	cys	ьęи	ALA		Asp	Arg	Arg	vai		
		~1	3703	T	a1	310	T	a 1	77-7	77-7	315	~1 ~	D	77.	a1	320	
	TTE	GIU	vaı	тÃВ	_	Tyr	Lys	GIU	vai		THE	GIII	PLO	Ala	_		
226	(2)	T.177	22247		325	a T0	·	TO .		330					335		
	8 (2) INFORMATION FOR SEQ ID NO: 3:																
230																	
231	•																
232																	
233	• •																
234																	
236	, ·																
239																	
240																•	
241																	
244																	
							TGG										48
	Ala	Pro	Lys	Asp	Asn	Thr	\mathtt{Trp}	Tyr	Ala	Gly	Gly	Lys	Leu	Gly	${\tt Trp}$	Ser	
248	1				5					10					15		
							TTC										96
251	Gln	Tyr	His	Asp	Thr	Gly	Phe	Tyr	Gly	Asn	Gly	Phe	Gln	Asn	Asn	Asn	
252				20					25					30			
254	GGT	CCG	ACC	CGT	AAC	GAT	CAG	CTT	GGT	GCT	GGT	GCG	TTC	GGT	GGT	TAC	144
255	Gly	Pro	Thr	Arg	Asn	Asp	Gln	Leu	Gly	Ala	Gly	Ala	Phe	Gly	Gly	Tyr	
256			35					40					45				
258	CAG	GTT	AAC	CCG	TAC	CTC	GGT	TTC	GAA	ATG	GGT	TAT	GAC	TGG	CTG	GGC	192
259	Gln	Val	Asn	Pro	Tyr	Leu	Gly	Phe	Glu	Met	Gly	Tyr	Asp	Trp	Leu	Gly	
260		50			_		55				_	60	-	-		-	
262	CGT	ATG	GCA	TAT	AAA	GGC	AGC	GTT	GAC	AAC	GGT	GCT	TTC	AAA	GCT	CAG	240
							Ser										
264				•	1	70					75			4		80	
		CTT	CAG	CTG	ACC		AAA	CTG	GGT	TAC		ATC	ACT	GAC	GAT		288
	GGC	O 1 1															
267								Leu	Glv	Tvr	Pro	Ile	Thr	Asp	Asp	Leu	
					Thr		Lys	Leu	Gly	_	Pro	Ile	Thr	Asp	_	Leu	
268	Gly	Val	Gln	Leu	Thr 85	Ala			-	90					95		336

RAW SEQUENCE LISTING DATE: 11/04/2005
PATENT APPLICATION: US/10/815,320 TIME: 13:27:14

274 GGC AAC TAC GCT TCT ACC GGC GTT TCC CGT AGC GAA CAC GAC ACT GGC 384 C75 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 125 125 126 115 120 125 125 127 127 127 127 127 127 127 127 127 127	271 272	Asp	Ile	Tyr	Thr	Arg	Leu	Gly	Gly	Met 105	Val	Trp	Arg	Ala	Asp	Ser	Lys	
275 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 276 115 120 125 278 GTT TCC CCA GTA TTT GCT GGC GGC GTA GAG TGG GTT ACT CGT GAC 279 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 280 130 135 140 282 ATC GCT ACC CGT CTG GAA TAC CAG TGG GTT AAC AAC ATC GGC GAC GCG 283 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 284 145 155 165 286 GGC ACT GTG GGT ACC CGT CTG GAT AAC GGC ATC CTG AGC CTG GGC GTT 287 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 288 165 170 290 TCC TAC CGC 291 Ser Tyr Arg 295 (2) INFORMATION FOR SEQ ID NO: 4: 297 (1) SEQUENCE CHARACTERISTICS: 298 (A) LENGTH: 179 amino acids 300 (D) TOPOLOGY: linear 301 (1) MOLECULE TYPE: protein 302 (ii) MOLECULE TYPE: protein 303 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 310 10 20 25 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313 5 40 316 For Tyr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 317 15		GGC	ממכ	ТΔС		тст	ACC	GGC	CTT		ССТ	AGC	CAA	CAC		ΔСΤ	GGC .	384
276																		301
278 GTT TCC CCA GTA TTT GCT GGC GGC GTA GAG TGG GCT GTT ACT CGT GAC 279 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 130 130 140 282 ATC GCT ACC CGT CTG GAA TAC CAG TGG GTT AAC AAC ATC GGC GAC GCG 283 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 284 145 150 155 160 286 GGC ACT GTG GGT ACC CGT CCT GAT AAC GGC ATG CTG AGC CTG GGC GTT 287 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 288 165 170 175 291 Ser Tyr Arg 295 (2) INFORMATION FOR SEQ ID NO: 4: 297 (i) SEQUENCE CHARACTERISTICS: 298 (A) LENGTH: 179 amino acids 299 (B) TYPE: amino acids 300 (D) TOPOLOGY: linear 301 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 307 1 5 10 15 308 Gly Thr Hasp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 20 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Phe Gly Gly Tyr 313 35 40 45 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 70 75 80 317 187 Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 320 85 70 75 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Wal Ser Arg Ser Glu His Asp Thr Gly 325 115 120 125 110 326 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 327 128 115 120 125 125 120 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 120 135 120 332 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 333 11e Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 175 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 340 (1) SEQUENCE CHARACTERISTICS:		017	11011	_	2114	501		017		UCI	**** 9	DCI	OIU		nop	1111	Oly	
279 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 280 130 130 140 140 140 140 140 140 152 140 140 140 140 150 140 140 140 140 140 140 140 140 140 14		СТТ	TCC		стδ	ւրդոր	CCT	CCC		СΤΆ	GAG	тсс	ССТ		ΔCT	ССТ	GAC	432
280 130																		452
282 ATC GCT ACC CGT CTG GAA TAC CAG TGG GTT AAC AAC ATC GGC GAC GCG 283 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 284 145		vui		110	Val	LIIC	nia		OLY	Vai	Giu	115		vai	1111	Arg	ASP	
283 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 284 145		ΑΤС		ACC	CGT	CTG	GAA		CAG	TGG	GTT	ממכ		ΔTC	GGC	GAC	GCG	480
284 145																		100
286 GGC ACT GTG GGT ACC CGT CCT GAT AAC GGC ATG CTG AGC CTG GGC GTT 287 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 288 165 170 175 537 290 TCC TAC CGC 537 291 Ser Tyr Arg 295 (2) INFORMATION FOR SEQ ID NO: 4: 297 (i) SEQUENCE CHARACTERISTICS: 298 (A) LENGTH: 179 amino acids 299 (B) TYPE: amino acid 300 (D) TOPOLOGY: linear 302 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 30 30 30 30 30 30 30 30 30 30 30 30 30			1114		9	ДСЦ		- 7 -	01	111	Vul		11011	110	OLY	пор		
287 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 288			ACT	GTG	GGT	ACC		ССТ	GAT	AAC	GGC		CTG	AGC	СТС	GGC		528
288																		320
291 TCC TAC CGC 291 Ser Tyr Arg 292 Ser Tyr Arg 302 INFORMATION FOR SEQ ID NO: 4: 393				,	O ,		9		1101	11011	_	1100	ДСС	001	шеш	_	vui	
291 Ser Tyr Arg 295 (2) INFORMATION FOR SEQ ID NO: 4: 297 (i) SEQUENCE CHARACTERISTICS: 298 (A) LENGTH: 179 amino acids 299 (B) TYPE: amino acid 300 (D) TOPOLOGY: linear 301 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 25 30 311 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313 35 40 45 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 55 60 318 Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 65 70 75 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser Lys 325 100 326 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 327 Gly Asn Tyr Ala Ser Thr Gly Val Glu Trp Ala Val Thr Arg Asp 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 126 Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 155 160 335 Ser Tyr Arg 340 Ser Tyr Arg 341 (i) SEQUENCE CHARACTERISTICS:		TCC	TAC	CGC		200					-,0					1,5		537
295 (2) INFORMATION FOR SEQ ID NO: 4: 297 (i) SEQUENCE CHARACTERISTICS: 298 (A) LENGTH: 179 amino acids 299 (B) TYPE: amino acids 300 (D) TOPOLOGY: linear 302 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 20 25 30 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313 35 40 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 55 60 318 Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 65 70 75 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser Lys 325 100 105 110 327 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 328 115 120 125 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 120 135 140 333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 150 165 170 175 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:																		33,
(i) SEQUENCE CHARACTERISTICS: 298			•															
298 (A) LENGTH: 179 amino acids 299 (B) TYPE: amino acid 300 (D) TOPOLOGY: linear 302 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 25 30 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313 35 40 45 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 55 60 318 Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 65 70 75 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser Lys 325 100 105 110 327 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 328 115 120 125 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 1 30 135 125 333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 150 155 160 335 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:		(-,																
Company																		
300 (D) TOPOLOGY: linear 302 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 25 30 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313 35 40 45 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 55 60 318 Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 65 70 75 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser Lys 325 100 105 110 327 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 328 115 120 125 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 130 135 140 333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 155 160 336 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 337 165 170 175 339 Ser Tyr Arg 344 (i) SEQUENCE CHARACTERISTICS:																		
302 (ii) MOLECULE TYPE: protein 304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 25 30 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313 35 40 45 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 55 60 318 Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 65 70 70 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser Lys 325 100 105 110 327 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 328 115 120 125 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 130 135 150 155 160 333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 155 160 335 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 346 (i) SEQUENCE CHARACTERISTICS:																		
304 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4: 306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn 310 20 25 30 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313 35 40 45 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 55 60 318 Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 65 70 70 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Met Val Trp Arg Ala Asp Ser Lys 325 100 105 110 327 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 328 115 120 125 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 130 135 150 150 140 333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 165 170 175 175 346 (i) SEQUENCE CHARACTERISTICS:																		
306 Ala Pro Lys Asp Asn Thr Trp Tyr Ala Gly Gly Lys Leu Gly Trp Ser 307 1			<u>-</u>															
307 1 5 1 5 10 15 309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn Asn 310 20 25 30 30 30 312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Gly Ala Phe Gly Tyr 313 35 40 45 45 315 Gln Val Asn Pro Tyr Leu Gly Phe Glu Met Gly Tyr Asp Trp Leu Gly 316 50 55 60 318 Arg Met Ala Tyr Lys Gly Ser Val Asp Asn Gly Ala Phe Lys Ala Gln 319 65 70 70 75 80 321 Gly Val Gln Leu Thr Ala Lys Leu Gly Tyr Pro Ile Thr Asp Asp Leu 322 85 90 95 95 324 Asp Ile Tyr Thr Arg Leu Gly Gly Gly Met Val Trp Arg Ala Asp Ser Lys 325 100 105 110 327 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 328 115 120 125 330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331 130 135 135 140 333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 155 160 336 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:		Ala												Leu	Glv	Trp	Ser	
309 Gln Tyr His Asp Thr Gly Phe Tyr Gly Asn Gly Phe Gln Asn Asn Asn Asn 310		_		-1-		_			-1-			4 -1	-1-		U -1			
310			Tvr	His	Asp	_	Glv	Phe	Tvr	Glv		Glv	Phe	Gln	Asn	-	Asn	
312 Gly Pro Thr Arg Asn Asp Gln Leu Gly Ala Gly Ala Phe Gly Gly Tyr 313			- 2 -				1		- 1			2						
313		Gly	Pro	Thr	Arq	Asn	qaA	Gln	Leu	Gly	Ala	Gly	Ala	Phe	Gly	Gly	Tyr	
316		•			_		•			-		•			•	•	•	
316	315	Gln	Val	Asn	Pro	Tyr	Leu	Gly	Phe	Glu	Met	Gly	Tyr	Asp	Trp	Leu	Gly	
319 65						•						•		_	-		-	
319 65	318	Arg	Met	Ala	Tyr	Lys	Gly	Ser	Val	Asp	Asn	Gly	Ala	Phe	Lys	Ala	Gln	
322					_	-				_					-			
322	321	Gly	Val	Gln	Leu	Thr	Ala	Lys	Leu	Gly	Tyr	Pro	Ile	Thr	Asp	Asp	Leu	
325																		
327 Gly Asn Tyr Ala Ser Thr Gly Val Ser Arg Ser Glu His Asp Thr Gly 328	324	Asp	Ile	Tyr	Thr	Arg	Leu	Gly	Gly	Met	Val	Trp	Arg	Ala	Asp	Ser	Lys	
328	325				100					105					110			
330 Val Ser Pro Val Phe Ala Gly Gly Val Glu Trp Ala Val Thr Arg Asp 331	327	Gly	Asn	Tyr	Ala	Ser	Thr	Gly	Val	Ser	Arg	Ser	Glu	His	Asp	Thr	Gly	
331 130 135 140 333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 155 160 336 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 337 165 170 175 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:	328			115					120					125			•	
333 Ile Ala Thr Arg Leu Glu Tyr Gln Trp Val Asn Asn Ile Gly Asp Ala 334 145 150 155 160 336 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 337 165 170 175 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:	330	Val	Ser	Pro	Val	Phe	Ala	Gly	Gly	Val	Glu	Trp	Ala	Val	Thr	Arg	Asp	
334 145 150 155 160 336 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 337 165 170 175 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:	331		130					135					140					
336 Gly Thr Val Gly Thr Arg Pro Asp Asn Gly Met Leu Ser Leu Gly Val 337 165 170 175 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:	333	Ile	Ala	Thr	Arg	Leu	Glu	Tyr	Gln	Trp	Val	Asn	Asn	Ile	Gly	Asp	Ala	
337 165 170 175 339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:	334	145					150					155					160	
339 Ser Tyr Arg 342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:	336	Gly	Thr	Val	Gly	Thr	Arg	Pro	Asp	Asn	Gly	Met	Leu	Ser	Leu	Gly	Val	
342 (2) INFORMATION FOR SEQ ID NO: 5: 344 (i) SEQUENCE CHARACTERISTICS:						165					170					175		
344 (i) SEQUENCE CHARACTERISTICS:			_	_														
		(2)																
345 (A) LENGTH: 216 base pairs			(i)															
	345			(1	A) LE	ENGTI	I: 21	L6 ba	ase p	pairs	3							

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/815,320

DATE: 11/04/2005 TIME: 13:27:15

Input Set : N:\Crf3\RULE60\10815320.raw Output Set: N:\CRF4\11042005\J815320.raw

L:32 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:] L:33 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:39 M:238 W: Alpha Fields not Ordered, Reordered [(C) CLASSIFICATION:] of (1)(vi)